

REMARKS

Claims 1-13 are pending in this application, and with the entry of this Response, Claims 1 and 3 are amended. The amendments to the claims are supported by the application as originally filed and do not introduce new matter.

REJECTION OF CLAIMS 1 AND 5-8 UNDER 35 U.S.C. § 103(a)

Claims 1 and 5-8 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,617,215 to Sugahara *et al.* The Examiner stated that Sugahara *et al.* “teach[] a method of preparing a mineral composition comprising: admixing clay soil with water and an acid to form a slurry; allowing particles of the slurry to settle; and concentrating the liquid. . . . [and] that this method is beneficial because it leads to effective utilization of acid and the extracted product.” Applicants traverse this rejection.

A claimed invention is patentable when the prior art fails to teach the claimed subject matter as a whole. 35 U.S.C. § 103(a); *see also* MPEP § 2141. The inquiries related to obviousness that are most pertinent to the current rejections are determining the scope and content of the prior art and ascertaining the differences between the claimed invention. The prior art references must teach or suggest all the claim features as a whole.

Applicants respectfully submit that Sugahara *et al.* fail to teach the claimed subject matter as a whole. Applicants submit that Sugahara *et al.* teach a “process for producing active clay of finely divided silica.” (Sugahara *et al.*, Col. 1, lines 4-5). Sugahara *et al.* teach a method wherein the first step requires the combination of an alumina-silica clay with an acid to form a “nonfluid solid reaction product”. (See Sugahara *et al.*, Col. 3, lines 57-58). The addition of the acid to the dry clay is taught by Sugahara *et al.* as being the step that differentiates the method of Sugahara *et al.* from a method where clay is added to a large amount of a dilute acid solution. (See Sugahara *et al.*, Col. 1, line 51 to Col. 2, line 5). Sugahara *et al.* teach that sufficient acid must be added to the dry clay to remove “basic metal constituents,” (See Sugahara *et al.*, Col. 3, line 70 to Col. 4, line 6). Sugahara *et al.* teach that the acid is “elut[ed] and [the acid] remov[es] a part or almost all of the basic metal constituents contained in these clays to produce active clay or finely divided silica.” (Sugahara *et al.*, Col. 1, lines 18-20). Sugahara *et al.* teach a method for

producing active clay. The product produced by the method disclosed by Sugahara *et al.* is a clay composition lacking basic metal constituents, not the mineral composition of the claimed invention.

Sugahara *et al.* neither teach nor suggest a method for preparing a mineral composition as recited in the currently pending claims. Sugahara *et al.* teach a method for the production of an active clay. Sugahara *et al.* teach that the extracted mineral components are removed from the mineral composition and are a waste product in the production of active clay. Indeed, all of the Examples provided by Sugahara *et al.* teach a method of making an active clay. Sugahara *et al.* does not teach any use for the extracted minerals.

Furthermore, Sugahara *et al.* does not teach a method for preparing a mineral composition comprising concentrating an acidic liquid from an extracted soil to create a concentrated liquid mineral composition. The Examiner stated that “Sugahara *et al.* teach[] a method of preparing a mineral composition comprising: . . . concentrating the liquid (*see* Col. 6, lines 51-54).” At Col. 6, lines 51-54, Sugahara *et al.* expressly states “[a]ccording to this invention, the basic metal constituents contained in the solid reaction product are extracted and removed therefrom with an aqueous medium of a pH not more than 1, and preferably not more than 0.5.” This excerpt from Sugahara *et al.* referenced by the Examiner does not teach or suggest a method comprising concentrating an acidic liquid from an extracted soil to create a concentrated liquid mineral composition. Quite the opposite, this excerpt from Sugahara *et al.* further confirms that the basic metal constituents of the soil composition are extracted and discarded in the method of Sugahara *et al.* There is no teaching or suggestion in Sugahara *et al.* of a method comprising concentrating an acidic liquid from an extracted soil to create a concentrated liquid mineral composition. Therefore, Sugahara *et al.* fails to teach or suggest all the claim features of the presently claimed invention as a whole. As a result, Applicants respectfully request the Examiner to withdraw this rejection.

REJECTION OF CLAIMS 1, 3, 4, 10, AND 11 UNDER 35 U.S.C. § 103(a)

Claims 1, 3, 4, 10, and 11 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,617,215 to Sugahara *et al.* in view of U.S. Patent No. 4,904,627 to Bhattacharyya. The Examiner stated that Sugahara *et al.* “teach[] a method of preparing a

mineral composition, [and]. . . Bhattacharyya teaches a process for producing an alkaline earth metal, aluminum-containing spinel/clay composition . . . compris[ing]: the powder of instant claim 2; the spray drying of instant claim 4; the edible acid of instant claim 10; and, the citric acid of instant claim 11.” The Examiner states that “it would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a method of preparing a mineral composition by extraction of clay soil with citric acid followed by spray drying to formulate a powder as taught by Sugahara [*et al.*]in view of Bhattacharyya.” Applicants traverse this rejection.

Applicants respectfully submit that Sugahara *et al.* and Bhattacharyya, either individually or combined, fail to teach or suggest the claimed subject matter as a whole. Applicants respectfully submit that Sugahara *et al.* teach a “process for producing an active clay of finely divided silica.” (Sugahara *et al.*, Col. 1, lines 4-5). Sugahara *et al.* teach that sufficient acid must be added to a dry clay to remove “basic metal constituents” (See Sugahara *et al.*, Col. 3, line 70 to Col. 4, line 6). Sugahara *et al.* teach that the acid is “elut[ed] and [the acid] remov[es] a part or almost all of the basic metal constituents contained in these clays to produce active clay or finely divided silica.” (Sugahara *et al.*, Col. 1, lines 18-20). The product produced by the method disclosed by Sugahara *et al.* is a clay composition lacking basic metal constituents, not the mineral composition of the claimed invention.

Sugahara *et al.* neither teaches nor suggests a method for preparing a mineral composition as recited in the currently pending claims. In contrast, Sugahara *et al.* teach a method for the production of active clay. Sugahara *et al.* teach that the extracted mineral components are removed from the mineral composition and are a waste product in the production of active clay. Sugahara *et al.* does not teach any use for the extracted minerals.

The teachings of Bhattacharyya do not cure the deficiencies of Sugahara *et al.* Bhattacharyya teaches a process for producing an alkaline earth metal, aluminum-containing spinel/clay composition. The process of Bhattacharyya “comprises: a) combining (1) an acidic, aluminum-containing composition . . . and (2) a basic, alkaline earth metal-containing composition to form a [gel] mixture; (b) mixing the gel with kaolin clay to form a co-gel; [and] (c) calcining the co-gel mixture to form the alkaline earth metal, aluminum-containing spinel composition in a kaolin clay matrix.” (Bhattacharyya, Col. 1, lines 53-60). Thus, Bhattacharyya

teaches a dried clay composition enriched with an alkaline earth metal and an aluminum containing composition.

The method of Bhattacharyya, however, does not teach a method comprising separating an acidic liquid and concentrating the separated acidic liquid. Bhattacharyya teaches a method where acidic, aluminum-containing composition, the basic, alkaline earth metal-containing composition are gelled together with a kaolin clay. The gelled clay of Bhattacharyya is then dried and calcined. The method of Bhattacharyya only teaches a method comprising drying and calcining of a supplemented gelled clay. Bhattacharyya does not teach separating or concentrating an acidic liquid mineral composition derived from a clay soil. Therefore, the teachings of Bhattacharyya do not cure the deficiencies of Sugahara *et al.*

Considering that the combination of Bhattacharyya and Sugahara *et al.* do not teach a method comprising concentrating an acidic liquid from an extracted soil to create a concentrated liquid mineral composition, Bhattacharyya and Sugahara *et al.*, either individually or combined, do not teach or suggest the presently claimed invention. Therefore, Bhattacharyya and Sugahara *et al.* fails to teach or suggest all the claim features as a whole. Applicants respectfully request the Examiner to withdraw this rejection.

REJECTION OF CLAIMS 1, 9, AND 13 UNDER 35 U.S.C. § 103(a)

Claims 1, 9, and 13 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,617,215 to Sugahara *et al.* in view of U.S. Patent Application Publication No. 2004/0258597 to Michalakos *et al.* The Examiner stated that Sugahara *et al.* “teach[] a method of preparing a mineral composition , [and]. . . . water purification by reverse osmosis was known in the art at the time the instant application was filed, as shown by Michalakos [*et al.*].” The Examiner stated that “it would have been obvious to a person of ordinary skill in the art at the time the invention was made to disclose a method of preparing a mineral composition by extraction using water purified by reverse osmosis as taught by Sugahara in view of Michalakos [*et al.*].” Applicants traverse this rejection.

Applicants respectfully submit that Sugahara *et al.* and Michalakos *et al.*, either individually or combined, fail to teach or suggest the claimed subject matter as a whole. Applicants respectfully submit that Sugahara *et al.* teach a “process for producing an active clay

of finely divided silica.” (Sugahara *et al.*, Col. 1, lines 4-5). Sugahara teaches that sufficient acid must be added to dry clay to remove “basic metal constituents.” (See Sugahara, Col. 3, line 70 to Col. 4, line 6). Sugahara *et al.* teach that the acid is “elut[ed] and [the acid] remov[es] a part or almost all of the basic metal constituents contained in these clays to produce active clay or finely divided silica.” (Sugahara *et al.*, Col. 1, lines 18-20). The product produced by the method disclosed by Sugahara *et al.* is a clay composition lacking basic metal constituents, not the mineral composition of the claimed invention.

Sugahara *et al.* neither teaches nor suggests a method for preparing a mineral composition that comprises basic metal constituents. In contrast, Sugahara *et al.* teach a method for the production of an active clay, which lacks acid-extractable components. Sugahara *et al.* teach that the extracted mineral components are removed from the mineral composition and are a waste product in the production of active clay. Sugahara *et al.* does not teach any use for the extracted minerals.

The teachings of Michalakos *et al.* do not cure the deficiencies of Sugahara *et al.* Michalakos *et al.* teach systems and methods for the recovery and purification of water, wherein a reverse osmosis system is used to separate potable water from impurities. (See, Michalakos *et al.*, ¶ 64). The method of Michalakos *et al.* does not teach the method of the currently pending claims. Michalakos *et al.* do not teach separating or concentrating of an acidic liquid mineral composition derived from a clay soil.

Considering that the combination of Michalakos *et al.* and Sugahara *et al.* do not teach a method as recited by the currently pending claims, Michalakos *et al.* and Sugahara *et al.*, either individually or combined, do not teach or suggest the presently claimed invention. Therefore, Michalakos *et al.* and Sugahara *et al.* fail to teach or suggest all the claim features as a whole. Applicants respectfully request the Examiner to withdraw this rejection.

REJECTION OF CLAIMS 1, 3-11, AND 13 UNDER NONSTATUTORY DOUBLE PATENTING

Claims 1, 3-11, and 13 were rejected by the Examiner on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claims 1-7 of the co-pending U.S. Patent Application No. 11/472,536 (‘536). Applicants respectfully submit that until allowable

subject matter is found, a complete determination cannot be made. Applicants submit that once allowable subject matter is found, Applicants may consider the filing of a terminal disclaimer.

REJECTION OF CLAIMS 1, 3-11, AND 13 UNDER NONSTATUTORY DOUBLE PATENTING

Claims 1, 3-11, and 13 was rejected by the Examiner on the ground of non-statutory obviousness-type double patenting as being unpatentable over Claim 1 of the co-pending U.S. Patent Application 11/638,311 ('311). Applicants respectfully submit that until allowable subject matter is found, a complete determination cannot be made. Applicants submit that once allowable subject matter is found, Applicants may consider the filing of a terminal disclaimer.

CONCLUSION

The foregoing is a complete response to the Action dated April 30, 2008. Applicants respectfully submit that the pending claims, Claims 1-13, are patentable. Early and favorable consideration is solicited.

Applicants file this response solely to facilitate prosecution. As such, Applicants reserve the right to pursue claims of broader or similar scope as originally filed in a continuation application or other application after allowance of the present application. Applicants do not concede that the current or past rejections are correct and reserve the right to challenge such rejections later in prosecution or on appeal. Accordingly, any amendment, argument, or claim cancellation is not to be construed as abandonment or disclaimer of subject matter. Because certain of the current amendments may include broadening amendments, Applicants respectfully request the Examiner to revisit any previously reviewed references cited in this Application to further ensure that the currently pending claims remain patentable over any previously reviewed references.

The Commissioner is hereby authorized to charge the fee of \$405 for the Request for Continued Examination and the fee of \$230 for a two month extension of time. Applicants do not find that any other fees are currently due, but the Commissioner is hereby authorized to charge any other fees that may be required, or to credit any overpayment, to Deposit Account No. 20-1507.

If the Examiner believes there are other issues that can be resolved by a telephone interview, or that there are any informalities that remain in the application which may be corrected by the Examiner's amendment, a telephone call to the undersigned attorney at (404) 885-3038 is respectfully solicited.

Respectfully submitted,

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